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**FEASIBILITY STUDY FOR A DESKTOP PUBLISHING LAB
FOR EDUCATION AND INDUSTRY AT
PITTSBURG STATE UNIVERSITY**

A Thesis Submitted to the Graduate School in Partial
Fulfillment of the Requirements for the
Degree of Master of Science
Printing Management

By

Dee A. Link

PITTSBURG STATE UNIVERSITY

Pittsburg, Kansas

May, 1989

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I would especially like to thank Dave Butler who continued to give me "reading assignments" long after I took his class in desktop publishing. His careful direction led me to better understand typographers and their beautifully balanced standards to produce quality publications, and to understand the real problems with desktop publishing.

Dee A. Link

P R E F A C E

Typographic Sanity

As the cold gray dawn breaks upon the morning after an orgy of tangled type design, a weary printing industry shakes its aching head and asks, 'Whither are we bound?'

The descent was easy; from black to blacker, from fanciful to grotesque, from freaky to freakier, but when we have plumbed the depths, when the tastes of printer, of reader, are all thoroughly dabauched, when we have achieved the ultimate in blackness, in illegibility, in riotous disorder—then to seek the return to the brighter regions of calm and ordered sanity; to reaccustom our ink-sated and jazz-jaded senses to a normal scale of values—this is labor, and this is the path that still lies ahead of the users of type.

The wave of reaction against the excesses of the last few years has been inevitable. Throughout the whole mad era, the Linotype organization has pleaded for moderation; for the guiding hand of good taste and good sense in the laudable quest for freshness of expression. In the face of insistent demands from many of its customers for surrender to the vagaries of the moment, it has striven to maintain its policy of typographic sincerity and to issue only type faces of lasting worth.

It would be a simple matter for the Company to design and cut matrices that would sell. It took far more vision to refuse to issue worthless types merely for profit, and instead to present only those faces which are fundamentally sound in design and character and which will be a credit to the publisher who uses them.

The policy is not new with Linotype. It goes back to the very beginning of the Company's typographic activity. This principle has been stated, restated and reiterated. It seems sound and sensible now, because it was sound and sensible when it was announced, and common sense doesn't change with passing years.

In the spring of 1930, TYPOGRAPHIC SANITY was printed as an editorial feature in THE LINOTYPE NEWS. Since that time it has been reprinted in various forms. It is considered to be as pertinent today as when it first appeared.

(Reprinted in its entirety from *The Readability of Type* by Linotype™, 1941. Brooklyn NY).

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CHAPTER I

INTRODUCTION

A desktop publishing lab to serve education and industry involves a multiple of problems not the least of which is defining what it is and how it is used by individuals, businesses and the printing industry.

Definition of Desktop Publishing

Desktop publishing is a method whereby an individual can at will produce computer generated material, at his or her desktop, that is camera-ready for reproducing in a chosen manner and then distributed for the public's information. The term was coined in 1985 by Paul Brainerd, president and founder of Aldus Corporation, makers of one of the first pagination programs, PageMaker™.

Brainerd described the process as one in which an individual could at his or her desk accomplish the tasks of several people: the artist, the writer, the typographer, the editor and the proofreader. In order to meet the criteria of a desktop publishing system, Brainerd described four necessary principles: "1) the desktop metaphor; 2) a system capable of producing publishable pages, including graphics, as output; 3) control of the publishing process by non-professional publishers—the new 'originators of inputs'; and 4) an inexpensive, popular system that could be sold through retail channels" (Seybold, 1987, p. 2-3).

The desktop metaphor meaning, literally, a place where one could visualize the screen as if it were a desktop where papers could be stacked and filed, moved and/or thrown away,

was actually developed as early as 1981 when Xerox produced the “Star” which was a computer ahead of its time and still out of reach from retail channels (around \$21,000 with a daisy wheel printer, or a digital typesetter for \$30,000 more).

The Growth of Desktop Publishing

“Initially when desktop publishing was created, the level of service it was intended to offer was really an upgrade of current internal documents. It was designed to help improve the look of documents that were previously typewritten or mono-spaced word processed. Today, desktop publishing really goes much further . . . because corporations like Linotype Company and its commitment to the desktop publishing market, offer true quality phototypesetting or image setting, giving . . . the highest quality type and graphic output available on RC paper or film” (Desktop Publishing: Dawn of a New Era, 1988, pp. 24-25).

Since its inception, desktop publishing (DTP) has been one of the fastest growing applications of the computer, dominating the '80s and ranking with the spreadsheet and word processing which dominated the '70s. Entrepreneurs and established industries have seen the potential for DTP and have opted for it over traditional methods of publishing, saving time, money and human resources. The academic world has seen the potential for DTP from the publishing of papers and studies to save time and money, to educating their majors in this new, high technology. The computer industry has seen sales grow from \$900 million in 1985 and are predict that sales will grow to \$5.6 billion by 1991 (Computer Publishing Systems, 1987).

Although systems come with manuals and software programs come with manuals, tutor disks and tapes, to a novice, these are often difficult to follow. Overcoming computer anxiety is a real obstacle. To most novices, printing becomes a typewriting job and

typography standards are not understood. Those who have not had graphic arts training struggle with layout and design and typography. As DTP grows both in technology and in application, trained personnel are needed to operate the systems.

The Feasibility of a DTP Educational Lab

There is a need for trained personnel with the knowledge necessary to create acceptable publications using many available software programs. Computer sales centers offer classes in the use of a variety of programs, and there are several training centers that are authorized to instruct people in using specific software, but the complexity of DTP requires that a person must be able to accomplish tasks that are normally performed by several people: the artist, the writer, the typographer, the editor and the proofreader.

Vocational-technical schools are providing some training. Colleges and universities are beginning to take on the challenge by establishing new curriculum to meet the needs of industry and education. Though the needs differ in various departments, English, communication, art and printing all benefit from this new technology and likewise need the sophisticated training necessary to produce acceptable publications.

This study will look at the feasibility of creating a DTP lab on Pittsburg State University's campus, sufficiently equipped for serving both education's and industry's learning needs.

Instruments used for analyzing the needs of education and industry will include a survey, completed in 1987, of the use of DTP in public school systems throughout the state of Kansas, a review of literature and primary investigation indicating its current use in the printing industry and other businesses and their need for trained personnel, and a comparison study of higher education facilities across the country offering printing technology, that have responded to the needs of their audiences by providing DTP

curriculum and/or labs. Departments on PSU's campus will be surveyed to determine their use of desktop publishing and their interest in training.

This study will explore the benefits of a DTP lab on Pittsburg State University's campus, that is sufficiently equipped to serve the needs of PSU's audiences. A proposed lab design, with equipment, supplies and estimated costs, along with suggested utilization of the lab for course work and seminar/workshops, will be included.

CHAPTER II

DESKTOP PUBLISHING IN INDUSTRY AND BUSINESS

A review of literature and primary investigation reveal that desktop publishing methods are becoming more widely accepted by the printing industry as well as businesses.

Printers Who Use Desktop

Publishing electronically through the use of computers is not new to the printing industry. Computers have dominated the scene since the advent of phototypesetting equipment in the early 1970s. Computerized typesetters today dominate composition rooms of most printing firms and the quality of type fonts and styles from phototypesetting systems has reached a level of acceptability within typographers' standards. It took some time, however, for this level of acceptability to be reached. When phototypesetting was introduced over the hot metal line casting methods, typographers rejected the quality and the new methods.

Since the advent of desktop publishing systems, printers have tended to be very skeptical of the new technology. As in all vocations, when a craft is threatened by extinction because of a "new way to do things," it is rejected strongly. As DTP technology has improved, and economics remains a strong motivating force, printers have begun to take a second look.

Their reasons for this reconsideration vary, but commonly it is for economic reasons. Printers find that their traditional standards are time consuming and many of the exacting processes are costly, as are human resources. Printers' customers often do not care about minute detail, and their needs do not require such exacting standards. Competition is

another reason for converting or integrating DTP into the printing business.

Seattle Lithographics, a \$1.5 million printing firm, caught in the squeeze between in-house and quick printing competition, turned to desktop publishing in 1985. Lee Ellis, owner of the firm formed **Technaprint** “to provide a service bureau and training center, offering do-it-yourself typesetting, page layout and desktop publishing training to its clients. . . . Today, **Technaprint** has more than 20 Macintoshes, two LaserWriters, a Linotronic 300 imagesetter, modems, hard disks, large screens and software. It is one of the largest training centers in the greater Seattle area, teaching in classroom and corporate settings. Its Linotronic 300 service bureau offers Macintosh rental time and high quality output. It also has a publications management division to provide consultation, specialized training and technical support” (Landis, 1988, p. 49).

A relatively new company in Dallas, Texas, **American Portable Publishing**, developed its own software and hired salespeople who were top ranking recent college graduates. They spent a month learning about typography, desktop publishing, the needs of targeted business markets and basic selling skills. Then salespeople called on accounts with portable desktop publishing equipment, including a printer. Layout is done in the buyer’s office. By the time the representative concludes the visit, the customer can see a layout, output in final form, know the price and contract for printed newsletters, forms, sell sheets, brochures, etc. The creation of the printed matter is done on the premises, and in the presence of the buyer. “. . . There are few examples of a company that has imaginatively marketed the *benefits* of data input, page makeup and quick output. . . . This company didn’t simply fall in love with the technology. It figured out the potential benefits of the technology” (Gorelick, 1989, p. 96).

Until recently, few printers were willing to “jeopardize a \$30,000 printing job with low resolution laser type. . . . Several developments have converged to make it finally possible

for high quality pages to be composed using desktop publishing equipment. . . . Quality page makeup . . . the Linotronic connection . . . creating output at the same high resolution of traditional digital type . . . and Linotype that is successfully promoting high-resolution direct-to-film output, and direct-to-plate output. Now even the largest printers are finding that they have important customers who swear by it" (McIlroy, 1989, p. 48).

The National Association of Printers and Lithographers (NAPL) considered using desktop publishing as early as 1985, since they generate many periodicals and special reports. They chose the Macintosh system and have been adding equipment and new technology ever since, but they indicate that it is what it is. It is not typesetting. "It is artistically sophisticated and can save hours in playing with potential layouts . . . but the learning curve can be a killer. Just when you've mastered it a new version of the software hits the market. How well it performs is still a function of the craftsperson behind it. In that respect, some things never change" ("Printers Who Use Desktop," 1988, p. 6).

Curry Copy, a quick print shop in Arlington, Virginia, that caters to legal firms, government agencies and local businesses, has incorporated DTP into their operations simply because of customer needs. Work that had been previously sent out to the typesetter was done by the owner, quickly and inexpensively and the customer accepted the quality. Paul Robinson who is the owner of **Curry Copy** says, "If you're in the printing trade or in the typesetting trade, you need to take a long hard look at desktop publishing. It will do to document preparation and publications what **USA Today** did to the newspaper industry" ("Printers Who Use Desktop," 1988, p. 5).

And Books is a South Bend, Indiana, book publisher that uses desktop publishing for short-run editions of books on a variety of subjects. Desktop publishing techniques has cut costs and saved them two-thirds in production time. One of their most widely acclaimed titles is *Desktop Publishing with Style*, and they print/publish from 10 to 12 books a year

with runs of about 5,000 copies. They also publish music, sports calendars and catalogs for other book publishers. **And Books** converted to desktop systems in 1986. Equipment includes a Microtek scanner with OCR software for reading typewritten manuscripts, an Olivetti XT computer with 20MB hard drive, a Xerox full-page monitor and a Xerox 4045 laser printer. The firm employs four full-time people. "We design all our books from scratch, . . . because we want our books to have a distinctive look." ("Desktop Publishing Cuts Costs," 1988, pp. 36).

Luster Williams, a member of the National Advisory Council for the PSU Department of Printing, and retired in-plant printer from Amaco in Tulsa, Oklahoma, is another printer who has converted. He has opened a quick print shop, **Handi-Print**, in Tulsa and is in the process of selling his Digitech typesetting equipment. He claims, "99% of my customers don't need or want high resolution in their product. I am converting to Macintosh and selling my Digitech . . . and getting a scanner. The rest of the work I will farm out." He feels the biggest advantage will be the experimentation which can take place on screen and faster and easier operation. He uses Dove Network, a Macintosh program for estimating, and Microsoft Works for his accounts receivable. For page layout and composition he is using Adobe fonts and Adobe Illustrator™. The person to do the actual typesetting and accounting is training at a vocational technical school in Tulsa (L. Williams, 1989. Personal interview, March 4, 1989).

Training staff to operate DTP systems is a problem for some firms. Locating a training facility that is close enough to be economically feasible for small businesses is a second problem. Another printing firm, **Calibrated Forms** in Columbus, Kansas, recently purchased a Macintosh desktop publishing system. According to Kay Amyx, co-owner, they are having to send one of their employees to Franklin Technical School in Joplin, Missouri, where classes are regularly scheduled in the use of desktop publishing systems

(K. Amyx, 1989. Personal interview, February 16, 1989).

Setting type by computer has been around long enough that most in-plant printing departments are aware of and use such systems. **Harvest Brands** in Pittsburg, Kansas, has been using an IBM Selectric Composer until recently when the equipment broke because it was old. It could not be repaired. The corporate office in Chicago dictated the replacement. A Macintosh DTP system was delivered in March of 1989, which included a Mac SE, LaserWriter IINTX, Hewlett-Packard (HP) scanner and color monitor for proofing ad layouts. The director of the in-plant printing department was familiar with Macintosh systems but had never installed equipment and software before. After struggling to follow user and installation manuals, he asked for assistance from the Pittsburg State University Department of Printing. The connection was made through a student employee of theirs who was familiar with the PSU desktop publishing program (D. Shultz, 1989. Personal interview, March 30, 1989).

The newspaper industry is another area in the printing industry whose response to desktop publishing has been overwhelming. All across the country newspapers are converting from traditional typesetting equipment to desktop systems because of the graphic capabilities as well as image assembly. Magazines, too, are using desktop publishing systems to allow for late breaking stories and a reduction in production time.

The **Baxter Springs Citizen** newspaper, in Baxter Springs, Kansas, converted to desktop systems in 1988 for several reasons: their typesetting systems needed replacing due to age and the growing cost of repairs. Extremely high resolution from typesetting equipment was not necessary since printing on newsprint tends to lose detail when the ink is absorbed into the paper. Three hundred dots per inch from the laser printer was considered acceptable resolution. (Most laser printers used with desktop publishing systems have a resolution of 300 dots per inch (dpi) compared to the 1270 to 2540 dpi of

typical typesetting systems.) Jeff Nichols, publisher for **The Citizen**, indicated the desktop system has saved the company time and money particularly in ad layout and pasteup. Because the technology is new, and time is an important factor in the learning process, due to never-ending deadlines, they have had difficulty in learning all of the software capabilities. **The Baxter Springs Citizen** is a member of a complete newspaper chain, owned by Woodson Newspapers Incorporated, that converted to the Macintosh desktop system in 1988. Some of the larger newspapers in the chain integrated the Macintosh with some of their existing equipment to save on the cost of total conversion, but all are printing camera-ready copy on the laser (J. Nichols, 1989. Personal interview, March 10, 1989).

“The quick printer, the in-house printer and the large printer all have different reasons for integrating DTP into their operations. But one thing is certain—more and more printers of all sizes and specialties are investigating the possibilities, advantages and drawbacks of installing DTP systems” (“Printers Who Use Desktop,” 1988, p. 4).

Drawbacks From the Printer's Point of View

Grace Hopper, a pioneering computer authority for some 50 years, in her address to the 1988 National Conference of the International Federation of Information Processing Societies, explained, “The computer is a great tool but it does still require thinking people. No computer has been invented that has imagination, initiative and common sense . . . computers are just a blip in the evolution of communications . . .” (“Humanware Gets a Vote,” 1988).

Drawbacks to desktop publishing systems have included the question of lower resolution in graphics and text that are printed on a laser printer versus the quality of output from traditional typesetting equipment and the lowering of standards that typographers have

long held high, such as typeface, spacing and kerning, to name a few.

Jeffery Parnau, founder of Parnau Graphics, Inc., is a lecturer and writer who has written extensively on the subject of print production. In his most recent book, *Desktop Publishing: The Awful Truth*, released in the spring of 1989, Parnau critically reviews the whole desktop process. "The professional use of DTP is often limited to text, rules and panels. Photos and artwork are generally handled by conventional methods. . . . Virtually all publishers in the country use conventional means to print black and white and color photos, including those who publish magazines on how to publish using DTP. . . . Editorial is not addressed in most DTP circles. The skills of the editor, copywriter, proofreader, and others involved in 'meaning' (rather than typesetting or design) are as necessary for DTP environments as they are for conventional environments" (Parnau, 1989, pp. 59, 115-116, 118).

In a *Wall Street Journal* article, Kerry Bierman, director of marketing at the American Medical Association in Chicago is quoted: "Desktop publishing gives a corporate design managers a headache. Suddenly there's a glut of slick looking reports . . . all reproduced without benefit of designers by almost anyone with a small computer and a graphics program. As the output goes up, designers say, quality of design and communication goes down. I'm disturbed by this. There's an art to designing printed matter, and I don't see it having a very long life if everyone who writes something is his own publisher" (Rooney, 1988, p. 28).

No one person can become the working staff that is necessary in the printing industry. "Most disturbing is that desktop publishing imposes on managers the job of choosing fonts and typesizes, and keeps them from their real work. . . . The technology is a distraction and not a benefit," according to Evelyn Wilk, a former Arthur Anderson & Co. senior manager who conducted an investigation for Xerox on how hundreds of firms are using

electronic publishing. The study concluded that many companies have been disappointed because the desktop systems do not replicate commercial systems (“Misadventures in Desktop,” 1988).

Ezra Shapiro, a contributing editor to *MacWEEK* explains what’s wrong with desktop publishing: “. . . the letterforms of PostScript typefaces are not as finely drawn as hand-set, Linotype and Typositor faces. Kerning algorithms leave a lot to be desired. Poor screen resolution deprives the designer of a good feel for the look of a piece. Layout software is arcane and overly technical. The mouse is not as subtle a positioning device as the hand-held knife” (Shapiro, 1988, p. 29).

Shapiro heard similar complaints in the early ’70s when computerized phototypesetting started to replace hot type. Computerized type could be spotted easily because “the letters were poorly shaped, kerning was nonexistent and spacing was haphazard. It was ugly,” but the new machines eventually were improved and they have now become the industry standard of choice (Shapiro, 1988, p. 29).

Jim Reidy, president of County Photo Composition Corporation, says, “It’s generally agreed that the current DTP hardware is too small, software too weak, and quality too poor, in most cases, to be able to achieve that which everyone is trying to achieve—new, efficient methods of producing work equal to, or better than, that which is done with current graphic arts methods and tools. As a result, we are going to see much more new, fantastically powerful software on much bigger, and far more powerful, hardware platforms. . . . DTP will grow itself to death” (Reidy, 1989).

Perhaps the desktop metaphor will no longer apply and the term “deskside” will be more appropriate as Jim Reidy suggests as he writes about the unlikely “death” of typographers (Reidy, 1989).

Businesses That Use Desktop

Businesses that use desktop have converted to the systems for many of the same reasons as the printer. "Few businesses are as concerned with the timely production of printed documents as insurance companies. Many insurance firms seek an alternative to manual production of contracts and . . . increasingly, they are turning to electronic laser printing systems, which can streamline production of tailored policies into an automated, one-step process. One such company is **Aid Association for Lutherans (AAL)**, which provides 1.4 million members nationwide with life insurance and, through its affiliated companies, financial services. AAL is using two Xerox 9700 laser printing systems in conjunction with Xerox XICS page-composition software and an IBM mainframe computer to electronically create, store and print customized documents" ("Case Study," 1988, p. 55-56).

→ **Bell South Enterprises** of Atlanta began publishing with the Samson system in 1988, producing 600 copies of the 1988 directories for two telephone companies. "Quick turnaround of ads and the capability to readjust pages electronically reduces the Yellow Pages industry's biggest bug-bear: open space on pages that end up getting filled with self-promotional but non-revenue-producing 'house' ads," says Cynthia J. Ringo, Bell South's media technology vice president.

The system, called Sampson, was developed in an effort to help regional phone companies and corporate users who need to publish very large documents. Because the system integrates the numerous components needed for publishing specialized documents it costs considerably less to publish by using the Macintosh II workstation rather than the dumb terminals on high-end multiuser systems that have been developed for publishing (Jones, 1989, p. 31).

St. John's Hospital in Joplin, Missouri, has an in-plant printing department for

providing their advertisements and brochures. Their technology includes both traditional typesetting equipment and an IBM desktop system. Most of their training for desktop publishing has been done in-house, according to Jerry Laughlin, Public Relations director. They have received some help from the IBM dealers, but for the most part learning publishing software has taken place on the job (J. Laughlin, 1989. Personal interview, February 13, 1989).

Waseda Inc., of Baxter Springs, Kansas, is a recently established small business in the state that manufactures oversized dump trucks used in open mining operations in Australia. In 1989 they will be purchasing a desktop system to produce their own maintenance manuals. Their system will not need to be complex but will involve word processing and pagination capabilities and a video/scanning device for providing graphics. The advantage of the DTP system will be their ability to revise text as changes in their technology take place. They have asked for technical assistance from Pittsburg State's Center for Technology Transfer in selecting and operating the desktop system since their technical writer/graphic designers has had no computer experience (L. Cunningham, 1989. Personal interview, March 9, 1989).

Elm Acres Youth Home of Columbus and Pittsburg, Kansas, converted their data collection and word processing needs to a computer system in 1988. Their needs include communication, fund raising and mailing lists, budget record keeping and publication of a newsletter. **Elm Acres'** future plans include software and additional hardware that can help produce the newsletter and other in-house communication. The desire to publish in-house will require training on the part of staff as well as youth since they intend for their students to contribute to the newsletter by utilizing their network of computers and programs (F. Ross, 1989. Personal interview, March 22, 1989).

Problems of Business

“The cost of software is like an iceberg, with the price of the package protruding from the water. Most of the real cost—training—is hidden from view. ‘For every dollar you spend on software, ten dollars will go into training the person who uses it,’ claims Paul Cubbage, associate director of Dataquest, a market research company in San Jose, California” (Perdue, 1988, p. 55).

Companies engaging in desktop publishing can use tutorials and manuals provided by the software companies, they can hire outside consultants to come in and train employees in-house or they can send employees to training centers that are available throughout the country. No matter where the training takes place, it is not cheap. “Typical on-site rates range from \$1,000 to \$1,500 per day . . . training centers usually charge by the person for instruction at their facilities; fees fall in the range of \$200 to \$300 per day per person” (Perdue, 1988, p. 57).

“In many large companies the responsibility for software training falls on the shoulders of the information managers, technical support managers, or micro managers. . . . They are most often technicians, not publishers, but . . . no matter how they try to economize on time, companies that engage in desktop publishing face a trade-off: spend time training employees now or spend it later as employees play catch-up” (Perdue, 1988, p. 55).

Authorized training centers are screened by several software companies and Apple Computer takes training no less seriously. Aldus Corporation (PageMaker), Adobe Systems (Adobe Illustrator), Letraset (Ready Set Go!) and Xerox (Ventura Publisher) all authorize training centers by requiring specific hardware configurations, resume information and often do on-site inspections and inquire as to parking and restroom facilities. Perdue lists some 62 locations around the country that have authorized training centers including Canada. (See Appendix A for a partial listing).

CHAPTER III

DESKTOP PUBLISHING IN EDUCATION

A review of literature and primary investigation reveals the extent to which public education has embraced computer technology and desktop publishing.

K-12 Public Schools Who Use Desktop

In a recent study of school districts in Kansas, 60% of the respondents were familiar with desktop publishing and 33% actually used some form of desktop publishing. Three hundred-twenty-five surveys were mailed out and 201 were returned. The study was done to determine the use of and interest in desktop publishing applications. Districts were also asked to indicate their interest in offering desktop curriculum to students. Eighteen percent indicated an interest in desktop curriculum and 21% were not sure because they were not really familiar with DTP. Forty-nine percent of those responding wanted to learn more about DTP and were interested in additional training (Link, 1987).

At the time of the study, curriculum was limited to individual teachers designing their own from software manuals and other similar sources. Since that study was done, Illinois State University in Normal, Illinois, has been involved in developing curriculum for industrial arts programs as well as graphic arts programs, through a grant received in 1987 from Graphic Arts Educational Research Foundation (J. Liedtke, Personal letter, February 2, 1989).

Teachers from districts in the Pittsburg State University area utilize the Southeast Kansas Education Service Center at Greenbush, Kansas for assistance and training on computers, including some desktop publishing applications.

Texts are now continually introduced. *Desktop Publishing: Producing Professional Publications*, by Benedict Kruse, from Delmar Publishers Inc. is one example. This text comes with lecture notes, supplementary projects, transparency masters and test questions. The list of texts continues to grow as evidenced by the flow of advertisements mailed to the PSU Printing Department regarding new publications. Retail distributors are springing up all over the country, carrying software tutor packages and resources for meeting learning needs.

In November of 1988, Apple Incorporated representatives officially announced the Kansas Teacher Productivity Network Project which was designed to develop a technology model which would help teachers with creative and administrative work and network teachers to principal, district office and the Greenbush Service Center. **Winfield Scott Elementary School** in Fort Scott, Kansas, was chosen as the pilot site for the program. Commissioner of Education for the state of Kansas, Droege Mueller, wrote the proposal for the program which included 10 to 12 training sessions and then approached Apple Incorporated for a gift to research the idea of teaching teachers to use the computer, thus setting an example for students. Up to this time, most projects have been designed to put computers into the classroom, for student use. In most cases, teachers were not actually using the computers themselves, therefore computers were sitting idle in classrooms. In this project teachers are trained to make total use of the computer. It becomes their pen, pencil and paper. Each has a MacSE and ImageWriter II for a total of 33 systems. They meet monthly in the auditorium to learn the capabilities and limitations of MacDraw, MacWrite, and Print Shop—programs which enable teachers to produce graphics and publications. These teachers “have been acquainting themselves with the computers and software, assisted by program developer, Dr. Norm Bell of Michigan State University” (D. Newton, Apple Inc. Education Account Executive, 1989. Personal interview, March 30,

1989; "Teacher Productivity Network," 1989).

Alma, Kansas, has been preparing copy-ready materials using a Macintosh computer and desktop publishing software for five years. Their journalism department uses the Macintosh to produce copy for the newspaper and yearbook. The superintendent in Alma says, "DTP is a revolution in communications. Its use will continue to grow" (Link, 1987).

Vocational Technical Schools Teaching Desktop

Of the vocational technical schools in Kansas, Emporia and Columbus have printing technology departments that utilize desktop publishing systems, and they teach students how to use publishing software programs. These schools are geared to teach post-high school individuals and persons who choose to gain a vocational skill. They do not ordinarily provide continuing education for individuals wanting short term instruction in specific software (Link, 1987).

Franklin Technical School in Joplin, Missouri, has a DTP lab in their Graphic Arts Department with 10 Macintosh computers networked to an Apple LaserWriter Plus. They offer classes to the public in DTP, specializing in Aldus's PageMaker™ 3.0 as the basic software program. The 10 session class will generally give a person sufficient skills to operate the application without help ("New Class in Desktop," 1988).

CHAPTER IV

DESKTOP PUBLISHING IN HIGHER EDUCATION

A review of literature and primary investigation suggests that colleges and universities use desktop publishing and offer desktop publishing curriculum through different departments.

Colleges and Universities Using Desktop

In a study completed in the fall of 1988, 248 higher education facilities offering printing technology were surveyed regarding their curriculum offerings in desktop publishing technology. The study was done to determine offerings of curriculum based on computer high technology including desktop publishing. Of those schools responding who offer printing technology programs (94), 76% offered studies in desktop publishing, and 46% of these required DTP technology in their programs. The thrust of the curriculum was typesetting (64%), graphic design (55%) and pagination (51%). Many of those schools responding indicated they did not offer DTP curriculum in their department but it was offered by other departments on campus. Departments such as communications or graphic design were cited (Link, 1989.)

It's hard to find college courses devoted solely to desktop publishing. Craig Webb states, "Rather, the frenzied race afoot to stock schools with computers, printers, and software is aimed at folding desktop publishing into the existing curricula. Desktop publishing-specific courses aren't necessary, schools say, and can even hurt students by teaching them how to run one particular system rather than giving them the basic training they'll need no matter what computer they use. . . . Some professors don't want to teach

DTP because it's too narrow." And, Webb explains, "others don't see any way out of it. Any student that doesn't know computers is going to be a dinosaur" (Webb, 1988, p. 58-60).

Merging desktop into existing curriculum is exactly what a New York institute has done. "The National Technical Institute for the Deaf at Rochester Institute of Technology . . . has rewritten its catalog to point out the desktop publishing skills it already teaches. The institute also intends to start offering desktop publishing-specific courses in the fall of 1989 as part of a program in electronic document production leading to an Associate in Applied Science degree" (Webb, 1988, p. 59).

There is a real need for computer publishing techniques according to Sandra Ute, an assistant professor of journalism at Memphis State University in Tennessee. She teaches such a course at the university and says they have so many students graduating in public relations that are being told on their first jobs, "Guess what you get to do? The newsletter" (Webb, 1988, p. 59).

Laslo Vespremi teaches a class on Mac infographics at the California College of Arts and Crafts (CCAC) in San Francisco. For graphic design students, it is a must to have a Mac piece in their portfolio, so students learn how to create graphics with MacDraw and other illustrator-type vector graphics. The six week course also involves page design and typography (Vespremi, 1988).

The typical college or university lab has 10 computers, usually Macintosh, which are connected through a file server to an Apple LaserWriter. Most schools choose Macintoshes for desktop publishing classes, and frequently have IBM and compatible computers for writing and editing courses. Rarely are students in one department seen in another department making use of the computer technology. The reasons are varied, but primarily it is cost. Labs have 10 - 20 students per class, and perhaps up to 500 majors, so space is

limited. The same is true of any department; they have no room for persons from other areas. Because of the expense, departments that get the computers tend to be protective of their use (Webb, 1988.)

“Ironically, as colleges struggle to accommodate the demand for desktop publishing courses, they are enrolling students fresh from high schools boasting labs of eight to ten computers. The students often know more about operating a desktop publishing system than the professors” (Webb, 1988, p. 60).

At the College of Visual and Performing Arts, Southeastern Massachusetts University, North Dartmouth, Massachusetts, Professor Dietmar Winkler says the design department was among the first to use the PageMaker/MacWrite combination but now they are faced with constant purchases to keep up with changes in software. “The school has some 50 juniors in graphic design, all heavily using Macs” (Johnston, 1988, p. 20).

Carnegie-Mellon University (CMU), Pittsburgh, Pennsylvania, has a reputation for being a computer-intensive school. During the sophomore year design students take a year-long course called Design and the Computer. As a result of heavy exposure to computers, students work as easily with computers as they do with pencil and paper. “Every CMU student takes a course called Computer Skills Workshop which introduces them to the use of Macs, PCs, and ‘Andrew,’ which is a campus-wide network. . . . No matter what tool the students use, the stages are still see, think, draw, says Professor Dan Boyarski” (Johnston, 1988, p. 22).

Desktop Publishing in Kansas and Missouri

Kansas State University received a lab development grant from Apple’s Education Division in 1988, allowing them to establish the A.Q. Miller School of Journalism Lab for desktop publishing. The lab is equipped with 20 Macintosh SEs with 20 MB hard disks,

one Macintosh Plus, one Kodak DataShow HR/M projection pad, one LaserWriter IINTX with one MB memory expansion, and one LaserWriter IINT for the faculty lounge. The computers are networked to the LaserWriter IINTX. The K-State lab is used by the department of journalism and is opened for seminars to members of the Kansas Press Association (see Appendix D and E for an outline of a typical seminar). Although the lab is open for seminars, it is not open to other students in other departments (Pearce, R. C., 1989. Personal interview, March 13, 1989).

Ron Johnson, Director of Journalism, Fort Hays State University, Hays, Kansas, writes in his report, "staff training is a never-ending function . . . and upgrades on software are eternal" (Johnson, 1988).

FHSU installed its Apple Macintosh network in August, 1985 and Johnson writes about what they have learned since then. Equipment must be kept secure because it is "very portable" and dot-matrix printers are good because they save the life of the laser printer for pre-proofing. He warns that, moonlighting is a problem, staffers will use equipment and you have to watch for equipment use requests from other sources (the lab could easily become the university's typesetter) (Johnson, 1988).

At the University of Missouri in Columbia, Missouri, the School of Journalism has the first Macintosh lab ever established in the United States. They received a lab development grant from Apple Computers, Inc. in 1986. This lab has 25 Macintosh Pluses, three LaserWriter Pluses, three ImageWriters and three hard disks keepers which function as file servers, connected by an Appletalk network (B. Wassmuth, 1989. Personal interview, March 14, 1989).

Shown on the following page is the lab as it was illustrated with Appletalk connections in the **VISCOM Newsletter**, December, 1987.

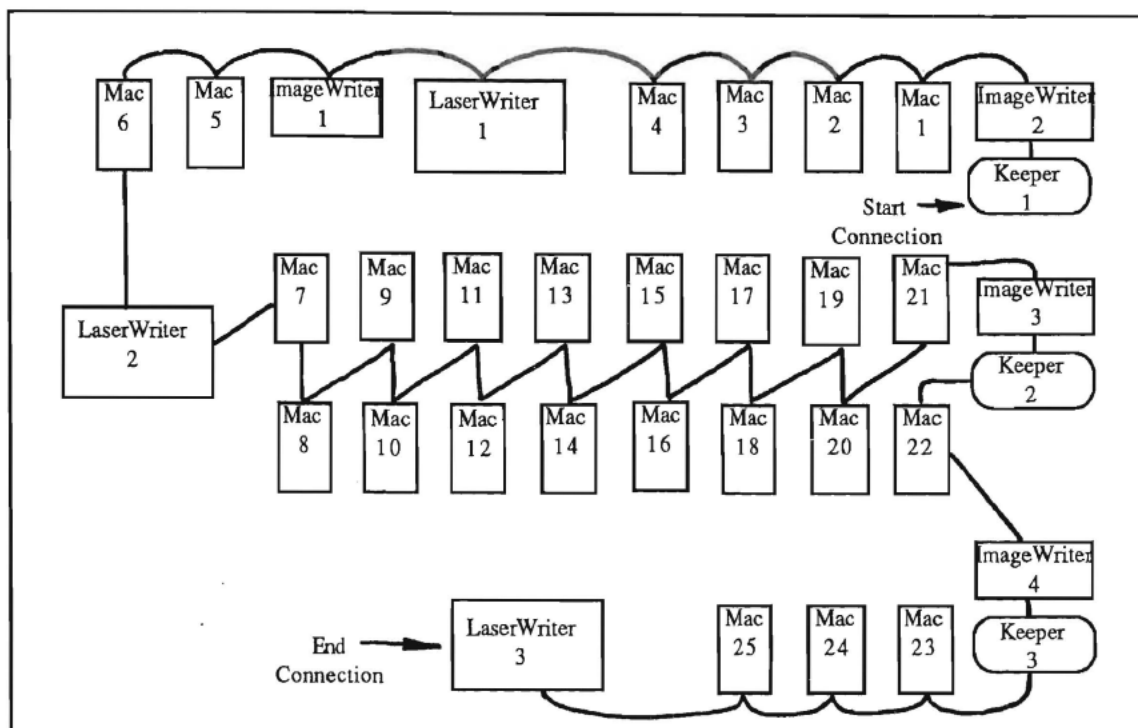


Figure 1. University of Missouri Desktop Lab

“Classes such as magazine design, newspaper design, information graphics and graduate seminars are being taught in the lab . . . and students are eligible to use the lab during open hours. The lab is used for classes from 8:00 am to 6:30 pm. After that it turns into an open lab until midnight. . . .The lab is limited to students registered for any of our advertising courses, with some exceptions. . . . Some 450 students usually have access to the lab per semester” The University of Missouri offer seminars for Missouri Press Association members including instruction in MacWrite, MacDraw, Cricket Graph, and PageMaker. These seminars begin on Thursday afternoons and end on Saturdays. Thursdays accommodate beginners, Fridays include intermediate levels and Saturdays are usually for advanced students (Wassmuth, 1987, pp. 4-5).

In her article, “*What We Do At Mizzou*,” Dr. Birgit L. Wassmuth explains the problems they have had with the lab and describes what measures have been taken to overcome the

problems. "Minor technical and electronic problems have occurred and we have learned to either fix or work around them. . . . Because we have the maximum number of ports connected in our network, we often put an immense electronic stress on the system which causes it to overload and break down" (Wassmuth, 1987, p. 5).

The classes were divided up into smaller groups and access was staggered in order to solve this problem. Because students tend to bump the tables, the Appletalk connector boxes came loose easily and this upset the network. By adding cable trays underneath the tables, this problem was overcome.

Dr. Wassmuth has seen a great deal of growth in the students since the lab was opened. She feels the students are no longer limited in their mechanical skills. "The computer has expanded their imagination and has opened a whole new world for them" (Wassmuth, 1987, p. 5).

CHAPTER V

THE COMPUTER ENVIRONMENT AT PITTSBURG STATE UNIVERSITY

Primary investigation to analyze the computer environment of the university included a survey instrument used to identify kinds, numbers, and applications used by academic departments and administration. Personal interviews were also used to determine commitment.

Commitment to Computer Instruction and New Technology at PSU

Dr. Robert K. Ratzlaff, Vice President for Academic Affairs at Pittsburg State University, stated that, "the University demonstrates its commitment to computer instruction and technology with its investment of more than half a million dollars in equipment. Lab space is provided and all students graduating from the university are required to complete a course in computers, insuring that students are knowledgeable in 'computer information systems'" (R. K. Ratzlaff, 1989. Personal interview, March 10, 1989).

In 1987 the University further demonstrated its commitment by hiring a resource person to coordinate and provide services to university students, faculty and staff through the office of Management Information Systems. Dawn Bushaw, Coordinator for Academic Computing, (1989) stated that, "To bring the University on an equal or higher status with other institutions is PSU's number one priority for long range planning. This would be accomplished by implementing primarily academic oriented support activities, aimed at substantially increased availability of micro and central computing based services for

faculty and students,” (D. Bushaw, 1989. Personal interview, March 14, 1989).

This goal will provide consistent, accurate and up-to-date information systems to support the academic and administrative university functions. This support is provided via computer hardware, software and staff personnel.

Instructional and research support is provided by a PRIME 750 Supermini system with 60 terminals and four line printers distributed in principal classroom buildings and in Axe library. Software provided includes BASIC, COBOL, RPG II, FORTRAN 77, PASCAL and PL/I and other specialized languages.

Administrative support is provided by the newly acquired PRIME 9955 Supermini system with 110 terminals and three line printers. Administrative systems utilize the INFORMATION database, Query and communications products to provide a fourth generation environment. Administrative microcomputer systems provide word processing support using student and alumni databases maintained in the central system as well as budget and planning support.

Inventory of Microcomputers on Campus

Microcomputer and minicomputer support for specialized programs are provided within all schools and colleges. Three major centers can be found on campus: the School of Education, the School of Business and Economics and the School of Technology and Applied Science. Administrative microcomputer systems provide word processing support using the student and alumni databases maintained on the central administrative system.

Inventory records from the Management Information Systems Department indicate that there are a total of 352 microcomputers on the campus. Of those listed 36 are Apple Macintosh, 512k or better, capable of word processing, graphics and pagination possibilities and a total of 280 microcomputers listed as PC compatible. A listing is not

available, however, of how many of the PC compatibles are interfaced with graphic capabilities. And this listing does not include the number of privately owned computers which are being used by individual staff and faculty members for their computing needs.

Application and Needs Survey Responses by Areas and Departments

To determine how the different departments were utilizing the microcomputers, a survey instrument was designed to ascertain the applications used and what interest, if any, there was in desktop publishing applications. The survey instrument also asked for opinions on how each area might use a DTP lab, should an extensive one be established, and how it would benefit their departments and majors.

Sixty-eight departments and administrative units on campus were surveyed in February, 1989 through the instrument. Thirty responded (44%) representing administrative areas and departments and fifteen responded (22%) representing academic areas and departments (See Appendix C for survey instrument).

Administrative Responses

A majority of administrative departments within the university have microcomputers. The majority said their primary use was word processing (73%) followed by spreadsheet applications (58%), graphics (55%) and data collecting and processing programs (48%). Forty-two percent were involved in some type of publishing application with their microcomputers. (See Appendix B).

Sixteen (52%) of the administrative units responding felt their departments would benefit from seminars or workshops offering DTP concepts.

Student Publications, a department within the academic support services for students has used desktop publishing systems for over a year now. They currently produce copy and

ads for the *Collegio* on the Mac II and the Department of Printing runs final copy. They also produce camera copy for the yearbook, *Kanza*, and send it to the publisher for final printing. Figure 2 shows a comparison of computer uses in academic and administrative areas.

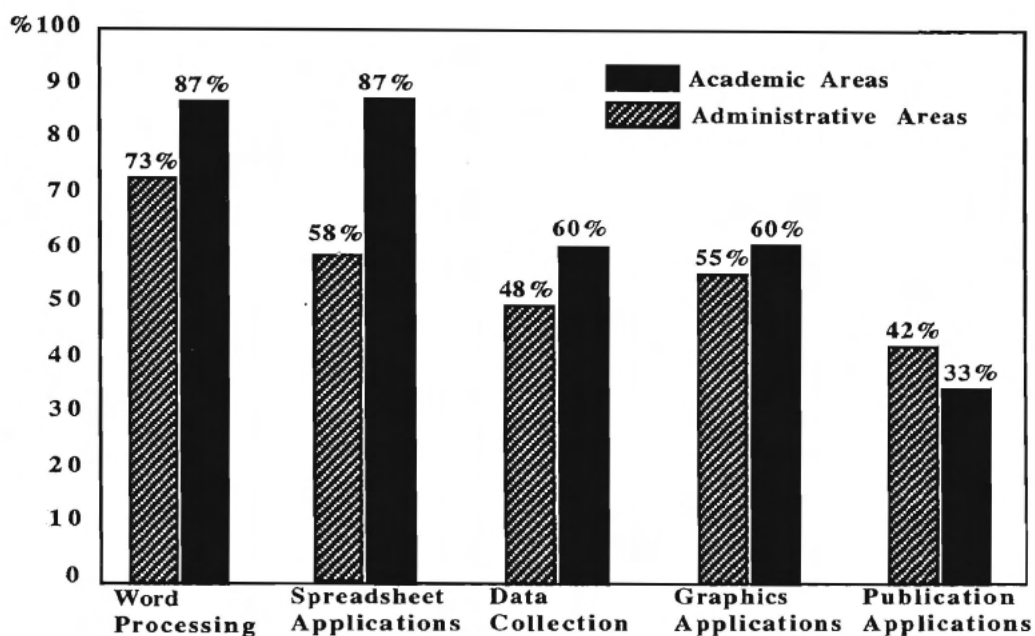


Figure 2. Academic and Administrative Uses of Microcomputers

Academic Areas and Departments

In the academic areas 87% use word processing applications. Spreadsheet applications represent 87% and 60% use data collection and/or processing applications. Thirty-three percent are publishing some type of material. Sixty percent use graphic applications.

Overall, 62% of the academic areas and departments would not use a desktop lab for student assignments according to the responses received; however, departments are evenly divided regarding the benefit a lab would provide for assisting the university's effort in writing across the curriculum. The departments would use the lab more to produce a variety

of materials for publication such as brochures, public announcements, etc., and 80% indicated seminar/workshops in DTP concepts would be beneficial to staff and faculty in their departments.

Accounting. This department responded that a DTP lab would be beneficial to their majors. They also indicate staff would benefit from learning DTP software and they would attend seminars or workshops.

Biology. They would not require the use of DTP through specific class assignments, but do agree that a general education course offering basic concepts of DTP would benefit their majors, and a lab would assist their efforts in the university's emphasis on writing across the curriculum. Their microcomputers are used for word processing, spreadsheet applications and graphics.

Business Administration. The department indicated that a DTP lab would enhance papers that are submitted for publication and would be beneficial to the department for publishing the departmental newsletter. They indicated they teach how to use desktop publishing in business communication. Although they suggest the lab would help students correct mistakes, and learn new shortcuts, a general education course designed to teach basic concepts in DTP might be too much. As a department they are definitely interested in a seminar or workshop offering DTP concepts.

Communications. The department of Communications has six areas of emphasis which include: general communication, public relations, broadcasting, news editorial sequence, photocommunication, theatre acting-directing and theatre technical-design. Currently in the news editorial sequence, use of computers is required to write editorials and stories. Instruction is conducted in the microcomputer lab at least once a week and assignments are designed which require the use of computers. Communication majors who choose the public relations sequence are made aware of the pervasiveness of the computer

in their field. The department responded positively regarding a general education course which would offer basic concepts of DTP for their majors.

Computer Science and Information Systems. The department would use the lab as a replacement printer. With the use of a laser printer, several departments would benefit from the professional appearance of their published work. The computer science department was skeptical of the benefit of another lab and thought it might be a “waste of resources on campus since it would put the emphasis on ‘form’ rather than content.”

In talking further with Dr. Felix Dreher, chairperson of the department, he suggested that three issues are involved in creating such a lab: “1) economic factors i.e., saving on cost of equipment for each department by having one central lab; 2) convenience factors i.e., involving something similar to the quick-print service in which departments would have a convenient place to produce documents—in which case it would be a duplication of effort; 3) special expertise factors i.e., a place to train staff and faculty and students to use software applications related to desktop publishing.”

He suggested that a “closed/open” lab concept might best serve the purpose of the university by supporting curriculum in several departments because several majors would find DTP an essential tool in learning graphic publications.

Construction Engineering Technology. They indicated they would use the DTP lab for promotion and brochure development and would welcome a seminar/workshop in DTP concepts. They would schedule some course assignments to be completed in a DTP lab and agree that a lab would benefit their efforts in the university’s emphasis on writing across the curriculum.

English. The department has three areas of emphasis in their Bachelor of Arts Degree: Literature, Creative Writing and Technical Writing. They use their computers for word processing and publishing. The department would benefit from seminars or workshops on

concepts of DTP, and feel that a DTP lab would be beneficial with tutor for their technical writing students.

Industrial Arts and Technology. The department serves non-degree (certificate) technical programs, undergraduate programs and industrial arts education. They list a total of 19 computers that are used for multiple use including publishing. The department feels that some majors would use a DTP lab for some courses and that they would benefit from a seminar/workshop on DTP concepts.

Mathematics. The department might use a DTP lab to develop overheads and mailing materials, but indicate no benefit to majors in their department. They conclude they “have been fairly self-sufficient so far.”

Mechanical Engineering Technology. Although they made no comment or specific suggestions, they were positive in their response to the idea of a DTP lab, indicating “yes” to all questions related to the use of such a lab.

Military Science. This department indicated that a lab would be valuable to them for making marketing materials, teaching aids and newsletters. They have one Mac SE computer that they presently use for spreadsheet applications, marketing, data collection and graphics. The department feels they would benefit from a seminar/workshop in concepts of DTP.

Music. They indicated that as “directors of public school music programs, their students need to know the potential of DTP,” and answered positively to all questions related to the utilization of such a lab.

Physics. The department has six microcomputers for word processing, spreadsheet, data collection and graphics applications. They feel that if a lab were available they would use it for publication purposes such as grant proposals, recruiting brochures, public announcements, etc. They feel a tutor in the lab could teach their majors how to use the

equipment, and that seminars/workshops would benefit the department.

Printing. The printing department is currently involved in desktop publishing, emphasizing typography, page composition and some graphic design. Jim Sours, Printing Management instructor, indicates that a computer lab is a vital part of two of his courses; both Printers Cost Accounting and Printers Estimating use computers for determining costs for production printing. "If computer time was available I would use it in the development of the 'employee handbook' for our project in Production Techniques. A desktop publishing lab could be utilized for estimating and cost accounting seminars, designed to help industry make full use of DTP systems for other than page make-up programs," he says.

The department responded that a lab tutor would save on instructor time, allowing them to concentrate on introduction to applications and then move on to printing industry standards in typography, graphic design and proofreading. The tutor would help students work on skill with applications.

The Department's printing services includes a Quick Copy service which uses desktop applications for customer publications and documents. The facility is set up to design, layout, typeset and provide laser output for the entire campus. Presently their equipment includes a Macintosh 512kE, three Macintosh SEs and two laser printers. The service coordinates the printing of student documents on one laser printer through the campus network. The service is also involved in many publication needs from various departments on campus. "The need for desktop services has doubled in one years time," according R. Rosenbaum, director of the services, and he anticipates hiring additional help in the DTP area just to cover the increase in job requests.

Psychology and Counseling. Psychology and Counseling stated that they would use the lab to produce brochures, schedules, programs and handouts. They would not

schedule course assignments to be done in the lab by their majors, but feel a lab might benefit their efforts in the university's emphasis on writing across the curriculum. They were interested in a seminar offering concepts of DTP.

Social Science. This department uses their microcomputers for word processing and spreadsheet/data collection applications. They indicate that a lab would probably assist their efforts in writing across the curriculum.

CHAPTER VI

SUMMARY AND CONCLUSIONS

Available literature indicates it is certain that desktop publishing is here to stay. To deny its existence is to say that computers are not a part of our lives. Across the country businesses and industry have found reasons to use this new technology. As these firms turn to new technology, they tend to remain compatible with existing equipment. If a firm has IBM or compatible, for instance, they purchase DTP systems which complement. Their needs also dictates what systems are purchased. Those firms oriented to word processing tend to remain with IBM and compatibles for speed and efficiency. Those firms oriented to graphic capabilities tend to purchase Macintosh systems due to the higher screen resolution and ease of use. Those firms specifically established to use desktop publishing tend to be Macintosh oriented.

Whatever system is used the biggest problem stems from the lack of training particularly with software applications. Literature suggests that training will determine the life of the business or industry. Without efficiently trained personnel time is lost rather than saved and simple economics allow competition to take over.

Training is the Important Element

Mark Winslow, vice president of MacSet and past manager of ImegaGraf, a desktop publishing service bureau, was quoted at the *Printing Impressions* second round table discussion on trends in electronic imaging: "If desktop publishing is going to be implemented effectively, it's very necessary to use a traditional graphic arts background. If desktop publishing is going to be implemented effectively and accepted by the personnel

who are going to use it, then it is very important that they are trained adequately” (Desktop Publishing: Dawn of a New Era for Printers, 1988, p. 25)

The president of the National Association of Printers & Lithographers, Charles A. Alessandrini asserts, “Improved technology and robotics will not save us (*printing industry*) from still requiring people.” The fact is, the manpower supply will slowly dwindle as the industry moves into the 1990s. One of the reasons for this is the lack of training in lower levels, K-12 industrial arts programs, vocational school programs and many other training programs have closed their doors due to lack of funds to replace equipment to remain current in technology (Roth, 1988, p. 10. Italics added).

Ben Grey, a recognized in-plant printing authority and recently retired graphics coordinator for the Chesapeake Public Schools, Chesapeake, Virginia, points out, “Printing proficiency requires many technical skills with a multiplicity of machines, sciences and arts. . . . Teaching labs are expensive to buy and maintain. And replacing equipment because technology has by-passed it before it has worn out is almost unheard of” (Grey, 1988, p. 18).

If this is true, all the more need for higher education or technology schools in printing technology to commit to quality education and technology.

A school needs commitment, first of all to the idea that printing technology is valuable in our system, and secondly, a commitment to obtaining perpetual funds i.e., endowments, grants, cooperative agreements, etc. to support the commitment. A commitment to curriculum, designed to meet the needs of business and industry, is a final must.

Not only training in printing technology, but training with software becomes important in the 1990s as printers continue to convert to desktop publishing systems. Ormsby Adams, feature editor for *Electronic Publishing & Printing* says, “When a person has been properly trained, there’s an almost instantaneous interaction between the user and the

program . . .” and after a great deal of practice it becomes second nature (Adam, 1988, p. 22).

Training then becomes the important element. Training becomes the key to successful quality publication.

Where the training takes place is important. The economical benefits of both time and money are received by all individuals involved: the trainee, the employer and the trainer. Training can take place on-site; that is where the employee is and that is where the exact equipment is. This benefits the employee, however, distractions are a real factor in slower learning levels (Perdue, 1988).

Training away from the job can be more concentrated in a seminar/classroom situation but equipment may not be the same. Private training services for desktop publishing around the country have been successful, but they are expensive.

Research suggests technical schools have been successful with training seminars. Reciprocal benefits are received by schools and industry, particularly when research is involved.

The Future of Desktop Publishing

Dick Gorelick, in his article in the marketing section of *Graphic Arts Monthly*, comments on the phenomenon of desktop publishing users and the manner in which it is promoted. “Software and hardware manufacturers have taken the distinctly American approach. It’s a short-term orientation that maximizes the sale but may involve a long-term price because it doesn’t educate the buyer in intelligent use of technology. Use is not the same as *application*. The latter involves a program, the former an integration into overall operations” (Gorelick, 1989, p. 96).

Although there is an almost frenzied rush to convert to DTP systems by many firms,

much of the final product remains in-house. Documents are of a higher quality now than when produced on the typewriter. If our society is document oriented, perhaps it is best that these documents are improved in appearance.

As the future of DTP unfolds, there will be a leveling-off of curiosity buyers and those firms committed to the technology will purchase more sophisticated hardware and software and master the skills needed to create professionally published documents.

The typographer, the editor, the artist and the writer all have reservations about the effectiveness of desktop publishing to save time, make fast corrections, meet deadlines, save money and ensure control because they perceive a threat to their own jobs. These professionals need to be asking, "what are we going to do about it?" Their answer lies in educating the public to the standards and responsibilities of each step in the publishing process. When customers bring in difficult if not impossible work, showing them what is involved may take time but understanding must take place. Then, those who truly want to take complete control of their publishing needs will have a better idea of what to expect and what is considered quality work.

"Although conventional printing companies and processes will be affected, the most important results of electronic publishing are the new opportunities for creation of more, higher quality pages and the printing of these pages to specialized targeted audiences in small quantities. That will create massive new service opportunities in short-run printing, distribution and facilities management that far outweigh any potential opportunities lost because of publisher applications of graphic arts technology" (Michelson, 1988, p. 6).

There are two different approaches to desktop publishing according to Thad McIlroy, author of a special report on desktop publishing and the printing industry, and president of Arcadia House, a consulting firm specializing in desktop publishing. "The original approach was to offer desktop machines behind the counter where the customers can't

touch them. The other approach is to rent time on the computer, and to let customers plunge right in. A Toronto based firm operates a two-store chain that offers mainly black and white, color photocopies and blueprint copies. A desktop publishing area was created with two Macintoshes connected to a LaserWriter Plus. . . . The firm sells time on the computers and charges per page for laser output. Sales have reached several thousand dollars each month.” Another firm in Atlanta has offered desktop publishing for some time and is based on the first approach. They have computers behind a partition. The main operator of the equipment indicates that not many employees know how to use the equipment, consequently the store hasn’t been selling a lot of desktop publishing output (McIlroy, 1989, p. 92).

All around the country government, business and the printing industry have turned to some kind of electronic publishing and “more and more businesses have taken partial control of their needs by incorporating desktop publishing. . . . While most are acutely aware of the resolution deficiencies of a 300 dpi printer they can’t justify the \$30,000 and up price tag on film-based imagesetter” (600 dpi PostScript, 1989).

The government is looking at desktop publishing as a solution to their massive publishing needs particularly in revisions for military manuals. They are looking at both the PC compatible, Macintosh systems and Steven Jobs’ NEXT as a critical factor in decentralizing the government’s publishing role. “The already booming use of electronic publishing and printing methods in federal, state and local government may prove to be only limited by the user’s creativity” (Charles, 1989, p. 38).

The original intent, of upgrading internal documents with desktop publishing systems, has gained momentum with all the word processing programs. “Today’s publishing programs offer benefits that will bridge the gap between the office and the print shop. . . . Word processing programs, professional publishing programs, each building on the other

have moved what was the typesetting part of the printing process out of the in-plant and into the business office" (Romano, 1989, p. 36).

Now a 600 dpi PostScript imagesetter is available on the market that will meet the higher resolution standards of business publishers for forms, newsletters, brochures, newspapers, proposals, manuals and many other business communications. And, Agfa Compugraphic has two new 2,400 dpi laser imagesetters that feature an external Adobe Atlas PostScript RIP (raster image processor) for output from popular desktop publishing applications such as Aldus PageMaker™, Adobe Illustrator™, Quark XPress™, Ready,Set,Go!™ and Ventura Publisher™. With these imagesetters, desktop publishing is not limited by the resolution problem. If businesses want control over the publishing process they can proof on lesser dpi systems and then buy out the final step of imagesetting.

Upgrading of software continues, and as bugs are found they are removed in the next edition of a particular software. This may seem costly and frustrating to the beginner. In reality the newness of desktop publishing is not unlike the early development of any technology. It takes years to work out problems. It takes experts working with the systems and communicating with hardware and software companies before problems are eliminated.

Present Status of Desktop Lab Facility at PSU

Pittsburg State through the School of Technology and the Department of Printing currently operates a lab for desktop publishing that includes eight Macintosh computers and two ImageWriter II printers with access to a LaserWriter Plus through the Department of Printing Office. Two classes are offered to students in desktop publishing concepts. Because the lab is limited by the number of computers, class size is limited to eight or ten. Of the eight Macintosh computers available for the class, five have sufficient memory to

run such programs as PageMaker™ for pagination concepts. The other three computers are 512k and accept only 400k, one-sided storage disks. The lab is a closed/open facility at the present time, allowing class instruction during specific hours and lab experience during open lab hours throughout the day and during several evenings. Lab times are supported with tutors who assist students and faculty. Currently, the two classes are available to printing majors and a few communication majors. The major thrust of the instruction is typography, graphic importation and pagination. The prerequisite for all students enrolled is Introduction to Printing.

Mutual Benefits of New Lab Equipment at Pittsburg State University

In its objectives, the University seeks to contribute to individuals by developing personal integrity and vocational competence. In its professional endeavor the university seeks to adequately prepare individuals for specialization by developing the necessary skills required in a specialty within a field of concentration.

In continuing studies, community services and research, the university attempts to serve individuals, business, industry and the professions of this area by providing facilities and leadership. In so doing, the university builds a valuable relationship with the community and strengthens ties with industry and business often resulting in fellowships, grants, bequests, and gifts that would not otherwise be available to the University.

Pittsburg State University will benefit in several ways by opening its doors to additional training, equipment and software for this new technology:

- 1) The Kansas Press Association (KPA) presently offers workshops to its member newspapers around the state who have converted to desktop publishing systems. They can offer these workshops only where schools have computer laboratories or where computers are available. Kansas State University is one such campus where they have a new

laboratory facility for desktop publishing. The K-State facility includes twenty Macintosh SEs with 20MB hard disks, one Macintosh Plus, one Kodak DataShow HR/M projection pad and one LaserWriter IINTX with one MB memory expansion. Because they open their doors to workshops KPA benefits by the training of its members and K-State benefits by increased exposure to its program and expertise and declares its commitment and support of new applications in technology. PSU would increase its exposure with this kind of service.

Barbara Fatseas, Member Services Coordinator for KPA, has indicated an interest in a facility being established at Pittsburg State. She indicates that the southeast Kansas newspapers do not have a particular location she can use for seminars.

2) Although the Southeast Kansas Education Service Center at Greenbush, Kansas, assists public school teachers in PSU's surrounding region, in learning computer hardware, they have only recently started limited training in DTP applications. In the survey instrument completed in 1987 of school districts all over the state of Kansas, 84% offered journalism classes and 60% used desktop publication software. Forty-nine percent wanted to know more about desktop publishing and wanted some assistance in learning software applications. There is a need for teacher training that is not being met and the university would benefit in providing additional curriculum to continuing education programs.

3) Looking at small businesses in southeast Kansas that have invested in desktop publishing systems, it is evident that a training facility would be mutually beneficial to these businesses and to PSU. As businesses continue to incorporate DTP for publishing needs, they will continue to need training and assistance. As they begin incorporating other computer programs to include accounting and estimating, training in this area is also needed. PSU, with a well equipped microcomputer lab that is versatile in a multiple of applications would benefit from seminar offerings to regional businesses and industries

needing technical assistance.

Recognizing PSU as a center for printing technology, computer technology and specifically desktop publishing technology would increase awareness of Pittsburg State University as a leading school in new technologies.

4) Finally, majors in the several disciplines at PSU will be adequately prepared in specialized new technology used in business and industry today. Graphic arts majors, communication majors, business majors and English majors can all benefit from a better equipped lab. For PSU to recognize the potential of DTP and its impact on the economy of southeast Kansas, and then to offer training and curriculum specifically in this new technology it could again increase awareness of Pittsburg State University as a leading school in new technologies.

CHAPTER VII

RECOMMENDATIONS

Recommendations must take into considerations existing facilities and the needs of several audiences: PSU students, staff and faculty, the industry and business community and the continuing education needs of public school teachers.

Present Desktop Laboratory Facility at PSU

The Whitesitt Hall lab (room 206) is currently within the School of Technology and Applied Sciences and its coordination is the responsibility of Dr. Dale Lemons, Industrial Arts and Technology, Chairperson. The present lab is in a good location in terms of accessibility to students and faculty. In 1988 the lab was upgraded with four Zenith MFM200 2.0F with color monitors, that currently have graphic capabilities, 512k memory plus 20 MB hard disk and one 5-1/4" and one 3-1/2" internal drive. There are also four Zenith MFM 1200 3.0B monochrome monitors with two 5-1/4" internal drives. Desks and chairs were replaced during the 1988-1989 school year replacing temporary accommodations. Of the eight (8) Macintosh computers, five will have received upgrading to 1MB by May, 1989, giving them sufficient memory to run current pagination program applications available in the lab.

Proposed Desktop Laboratory

Throughout this study it has been clear that additional equipment is needed if PSU is to adequately speak to the learning needs of industry and education in DTP in southeast Kansas. The following recommendation is based on needs as they are perceived through

primary and secondary investigation.

This proposal includes the current PC compatible equipment, four of which would be expanded to include a mouse and window interface for pagination programs, and will replace Macintosh computers with current technology, including a double-page monitor, image scanner and projection pad for an improved educational setting. (See page 49 for proposed lab layout.)

The three-fold purpose of the new lab is to serve desktop training needs: 1) in several academic areas to include faculty, staff and majors, 2) in business and industry, 3) and for public school teachers in their continuing education.

Academic Needs. Service to academic areas should provide workshops for faculty and staff at least twice a year, once each semester, to increase their knowledge of software as well as train the beginner. Workshops to include how to publish manuscripts and reports; workshops designed to standardize the quality of publications on and off campus; and workshops to introduce word processing and graphic programs, would all benefit faculty and staff.

Several courses are recommended to fit the needs of PSU department majors which include some flexibility due to the number existing departmental requirements: 1) Printing technology requires a course designed to demonstrate new technology, typographical skills and page composition; 2) Communication and public relations requires a course designed to demonstrate new technology for communication and presentation and might involve simply a 4-week unit within Writing for Public Relations Comm. 576 that would introduce page layout and word processing technology; 3) Commercial graphics requires a course designed to demonstrate new technology in graphic generation, communication and presentation, and might involve a 4-week unit within Advanced Illustration Print 479 or Advanced Layout and Design Print 576 that would introduce image generation technology;

4) General Education requires a course to demonstrate new technology. Again, due to department requirements, it is almost impossible to require a prerequisite to desktop publishing but emphasis must be placed on individual responsibility to quality publication and visual communication.

Business and Industry Needs. Service to business and industry should be designed to provide for technical assistance in new technology, economic growth through efficiency of operation in use of management software and basic employee training in how to use desktop applications. Workshops/seminars should be offered on a monthly basis.

Continuing Education Needs. Public schools systems are adapting to the computer environment faster than any other segment of our society. In order to teach students how to use and adapt to a computer world, teachers also need training. An education course designed for credit, based on concepts of communication, typography and quality publication should be offered during the summer.

Scheduling of the Desktop Lab

Organization and development of the lab, to fulfill the greatest potential, must be coordinated through the Office of Management Information Systems (OMIS), with input from individual departments, and localized supervision through the school of technology.

Promoting and scheduling of academic instruction, seminars and workshops for business and industry and continuing education would require the coordination of a half-time person devoted to the DTP facility. This person would be directly responsible to the OMIS and also work closely with department chairpersons to insure that needs are met.

Academics and Administration. To define how a lab might be multi-purpose for several departments is a difficult task which must take into consideration all of the unique needs of each department. The English department for instance would not have the

typography concerns and publishing concerns that the printing department might have. The communication department may not have the same literary concerns that the English department might have. The printing department might impose standards that are too stringent for other departments.

With the coordinating efforts of OMIS and administrative support and direction, a campus policy, proposing a standard for published materials, be they posters, announcements, manuscripts, newsletters, theses, dissertations, etc., could be developed to encompass the university as a whole. The question of the quality of printed material circulating on and off of the campus is a problem beyond the scope of this study, but might be helped with such a policy. No department likes to be told how to do their business, but a symposium which allows departments to be represented and to have equal input to a policy would be politically sound.

Proposed Equipment and Software

In light of the current growth rate for DTP technology both in hardware and software, it would appear to be a difficult task to determine which technology will last and which will go by the way-side. Ten years from now we might see a leveling-off of advances in desktop technology so that education can remain relatively current with hardware and software, but that is not likely. Although DTP labs are continually hampered by outdated material some concepts remain such as page make-up and graphic and text integration. For the purpose of setting up an improved lab, one can look for efficiency and speed in hardware and keep with some software applications already existing that have performed well and serve as basic learning tools for the beginner.

Andrew Gore, a contributing editor to the *Macintosh Buyer's Guide* says, currently, "the Macintosh IIX, the LaserWriter IINTX and PageMaker™ 3.0 (along with Quark

XPress™ 2.0 and Ready,Set,Go!™ 4.5) define the standard DTP system.” (Gore, 1989, p. 31).

Less expensive but still adequate in memory and speed is the Macintosh SE/30 with 20MB internal hard disk and internal drive for the purposes of the proposed lab. The LaserWriter IINTX is faster than the LaserWriter Plus, and has more memory, but with the new 600 dpi lasers just now on the market, sticking with the Plus until prices level off and a 600 dpi unit can be acquired might be advisable. (The equipment list on page 48 does however include an IINTX.)

PageMaker™ 3.0 is faster (but requires more memory), has text-flow capabilities from one page to the next and allows text to be placed within one pica of graphics, no matter the shape of the graphic. Training packages for the 3.0 version are now available and should be investigated to determine their usability in a closed lab situation. A training package from Aldus for the 3.0 version includes a workbook for 10 participants and license to duplicate the program for 10 systems. This package also includes transparencies and course outline and retails for \$626.

The proposed lab includes 15 Macintosh SE/30s with 20MB hard disks for student work stations, one Macintosh II with 40MB hard disk and a two-page monitor for the instructor work station, one projection pad, one scanner and one LaserWriter IINTX.

Licensed copies of software such as MacWrite™ SuperPaint™ and PageMaker™ are to be stored on hard disks and will be copy protected. Other software for the proposed lab includes additional fonts from Adobe™ and AdWriter™ which typify what is used in the newspaper industry. The Apple Scanner with an 8.5 by 14-inch flatbed includes AppleScan™ and HyperScan™ software allowing high quality images to be scanned. Additional software is listed on the following page along with a cost estimate of all proposed software and equipment. This list does not take into consideration the supplies

needed such as paper and ribbons.

Equipment List for Proposed DTP Lab

Retail Price	#	Item	Description
Hardware - Macintosh			
\$41,985.	15	Mac SE/30*	20MB hard disk, w/mouse, keyboard, cabling
4,729.	1	Mac II*	40MB hard disk, w/mouse, keyboard, cabling
1,924.	1	Apple Monitor*	2-page display, monochrome, w/adaptor
1,343.	1	Apple Scanner*	Optical image scanner w/cable
1,794.	1	DataShow HR/M	Projection Pad and video adapter (\$99)
6,962.	1	LaserWriter IITX	Plus 1MB Memory Expansion kit (\$499)

Hardware - PC Compatible

\$ 600.	4	Mouse units	Microsoft for the PC Serial/PS2 w/windows
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Peripherals

\$ 893.	17	AppleTalk*	Local cabling system
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Software

\$1,252.	20	PageMaker 3.0*	Classroom version for Mac #110-267
626.	10	PageMaker 3.0*	Classroom version for PC 3.5 disk #120-345
350.	1	Adobe Illustrator*	Technical illustration, designing
2,000.	1	AdWriter 1.0	Ad make-up program for newspapers
400.	1	MacVision 2.0	Digitizing program
322.	1	Microsoft Word*	4.0 version word processing program
395.	1	More II	Classroom presentation program
1,040.	16	MacWrite 5.0*	Word processing program (\$65)
2,112.	16	SuperPaint 1.1	Paint/draw program (\$132)
495.	1	PixelPaint 1.1	Paint/draw program
1,475.	5	Canvas 2.0	Paint/draw program
1,000.	4	Adobe Fonts	Additional font families for LaserWriter
264.	4	Microsoft Windows	PC286 3.5 (\$66)*

\$71,961. TOTAL

+ 7,196. (10% maintenance and supplies)

\$79,157.

*Apple prices were quoted by Rick Stiles, Computer Patch, Joplin, MO. April 7,1989.

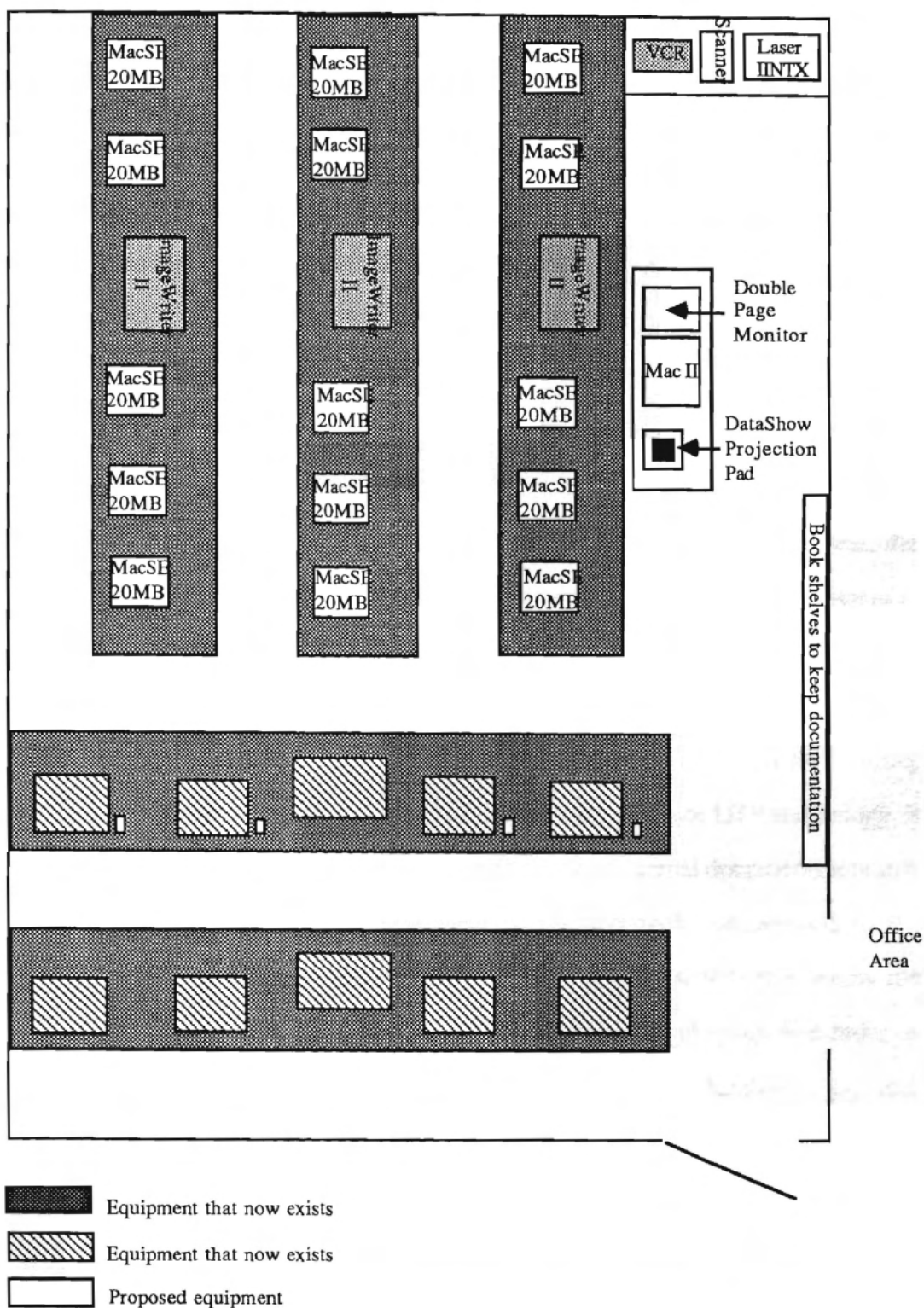


Figure 3. Proposed Desktop Publishing Lab (Whitesitt Hall 206)

Funding Sources

A DTP lab is possible through several means of funding. The following is a listing of secondary and primary research which indicates possible funding.

Apple Education Grants. Apple has been in partnership with universities since 1983 with the establishment of the Apple University Consortium (AUC), with 25 schools. Today the AUC has grown to 32 institutions . . . and Apple now deals with 3,200 schools, funding Mac courseware-development projects.

"Apple plans to focus the 1989 development projects in five areas: multimedia, simulations, numerical tools, collaborative writing, and interfaces into information systems for administrative databases and library systems. In terms of academic subject areas, the company is directing its marketing efforts at students in English, computer science, engineering and business" (Craig, 1988, p. 20).

If Apple education grants are to be applied for for this proposed lab, it is eminent that PSU look at the potential of assistance from Apple to do research based on printing industry's needs. Evidence indicates that although the industry does use DTP technology, it is limiting and since it was originally intended only to upgrade internal documents it is still based on the typewriter. The keyboard for instance on all Macintosh computers does not have the sexed and single quotes on the main keyboard, the typesetter must access the option keyboard for both. There are countless other examples of inadequacies in order to meet the needs of the printer. Apple is looking for a proposal which identifies a gap, and then suggests how that gap might be closed.

Center for Technology Transfer. The primary purpose of the Center for Technology Transfer is to help the economy of the state of Kansas. Projects and proposals that serve that end are generally more successful in receiving funding approval. The funding that the Center might provide would further the state economy in some fashion.

APPENDIX

For this proposal to receive funding through the Center it might include a graduate assistant whose responsibility it would be to organize and identify needed workshops and seminars for business and industry. Funding can be received for coordinating personnel who provide needed services.

Kansas Press Association. Research confirms the extent of use of DTP in the newspaper industry. Computer technology has been embraced overwhelmingly, but keeping up with the latest technology has been a challenge. A DTP lab with current newspaper applications such as ad-makeup and pagination programs, and up-to-date equipment for training, would benefit the industry. IBM systems are most common in the industry because of text composition but Macintoshes are now being used for page layout and ad make-up and technology is now at the point of linking the two with few problems. A lab equipped in this way would benefit KPA training.

The Kansas Press Association organizes and sponsors seminars for association members, regularly. They provide hands-on experience in both Macintosh and IBM PC systems to answer questions and solve problems that newspapers have with layout and design. Although KPA has not contributed toward the financial aspects of the Kansas State workshops, they would be supportive of a new lab here at PSU and would most likely encourage private support from newspaper organizations.

Other Funding Sources. KTEC provides funding for research. Again, this proposal would need to suggest research needed, say in industry's use of DTP technology or the university's place in providing services for community and industry as well as education.

Private funding through endowments and gifts are another possibility for exploring. Through the National Advisory Council for Printing Education, perhaps members would be helpful in finding substantial contributors to the lab.

APPENDIX A

Where to Look for Training

Included in the following list are independent centers okayed for PC- or Macintosh-based Pagemaker training by Aldus, and authorized Apple Training Alliance centers that offer lessons in Pagemaker, Microsoft Word, Powerpoint, Superpaint, and Adobe Illustrator—all, of course, for the Macintosh. Also listed are independent trainers authorized by Xerox to teach Ventura Publisher, as well as other training centers featured in this issue of *Publish!*

Xerox also runs 46 of its own training centers in 26 states. Call (1-800) 455-5554 for the one closest to you. For your nearest authorized Ready Set Go trainer, call Latraset at (1-800) 722-0377. For additional Adobe centers, call (415) 962-2000.

AD=Adobe Illustrator
ATA=Apple Training Alliance
PM=Pagemaker for the Macintosh
PPC=Pagemaker for the PC
VP=Xerox Ventura Publisher

California
Fresno: Millennium Technologies (209) 453-0362 [VP]
Hayward: Letter Perfect (415) 581-7563
Inglewood: Topic Data Systems (213) 641-4904 [VP]
Irvine: Computer Solutions Int'l, Inc. (714) 474-1124 [PPC]
LaJolla: Learnsoft, Inc. (619) 546-1924 [VP]
Los Altos: Businessland (415) 968-9062 [AD, ATA]
Los Angeles: Businessland (213) 629-1478 [ATA]
Oakland: Training Services (415) 439-2181 [AD]
Pittsburg: Los Medanos College (415) 439-2181 [AD]
San Francisco: Businessland (415) 989-3741 [ATA]; Corporate Solutions (415) 392-1021 [PM]; The Informative Edge (415) 392-5544 [AD, PM]; Institute for Advanced Technology (800) 638-6590 [ATA], Spiegelman Design Associates, Inc. (415) 442-0290 [PM]
San Jose: AM Design (408) 578-0512 [PM]; Businessland (408) 437-4073 [ATA]
Sunnyvale: Institute of Computer Technology (408) 733-0916 [PM]
Westlake Village: PC Services (818) 991-0897 [PPC]
Connecticut
Fairfield: Institute for Personal Computers in Business, Fairfield University (203) 254-4170 [PPC]
Trumbull: CPCE, Inc. (203) 268-0049 [VP]
Wallingford: Vital Office Systems (203) 265-8300 [VP]
Westport: Forhan & Wakefield Group, Inc. (203) 222-1607 [AD, ATA, PM, PPC]
District of Columbia
Washington: Future Enterprises, Inc. (202) 662-7676 [PPC, VP]
Georgia
Atlanta: Businessland (404) 231-1068 [ATA]
Illinois
Chicago: Businessland

(312) 346-0606 [ATA]; Desktop Publishing Services, Inc. (312) 248-8211 [PM, PPC]; Micro Age (312) 781-7777 [AD]; Micro-Computer Learning Center (312) 332-0419 [PM, PPC]
Hinsdale: Professional Training Centers, Inc. (312) 920-0750 [PM, PPC]
Libertyville: Computerland of Lake County (312) 680-9111 [VP]

Indiana
Syracuse: Computer Design Equipment (219) 457-5796 [VP]

Louisiana
New Orleans: Computerland (504) 522-2255 [VP]

Maine
Bangor: Leighton Business Systems (207) 942-7377 [VP]

Maryland
Baltimore: Computerland Education Center (301) 837-5677 [VP]
Columbia: Laser Publishing & Design (301) 596-2185 [PM]
Rockville: Institute for Advanced Technology (800) 638-6590 [ATA]
Silver Spring: United Information Systems (301) 622-9122 [VP]

Massachusetts
Boston: Boston Center for Computer Applications, Inc. (617) 455-8587 [AD, ATA]; First Micro Group Inc. (617) 227-1185 [PM, PPC]; SIS Inc. (617) 720-5500 [PM]
Cambridge: Micro Mentor (617) 868-8500 [AD, ATA]; Watxmann-Keyes Information Design (617) 868-8110 [PM]
Watertown: The Publisher's Edge (617) 923-0229 [PM]

Michigan
Kalamazoo: SSG Laserworks (616) 375-8996 [VP]
Northville: Computer Training & Software Support Corp. (313) 348-2940 [PPC]

Minnesota
Minneapolis: Control Data (612) 853-6271 [AD]; Corporate Publishing of Minneapolis (612) 925-0908 [PM, PPC]
St. Paul: Institute for Advanced Technology (800) 638-6590 [ATA]

Mississippi
Ridgeland: Micro Age of Jackson (601) 956-5440 [VP]

Missouri
Kansas City: Businessland (816) 474-5336 [ATA]
St. Louis: Businessland (314) 966-5450 [AD, ATA]

New Jersey
Morrisstown: Computer Applications Learning Center, Inc. (201) 539-6050 [PPC]
Parsippany: Micro Age (201) 299-1770 [VP]; Software Galleria (201) 882-9797 [VP]

New York
Amherst: Personal Computers, Inc. (716) 832-8800 [VP]
Brooklyn: Ektron Systems, Inc. (718) 625-7222 [VP]
Endicott: Micro Age (607) 757-9300 [VP]
New York City: Businessland (212) 239-2400 [ATA]; Electronic Directions (212) 533-9651; Microtek Enterprises, Inc. (212) 383-6410 [PPC]; Personal Computer Learning Centers of America, Inc. (212) 953-9800 [PM, PPC]
Rochester: Logical Operations, Inc. (716) 262-2226 [PM, PPC]

North Carolina
Charlotte: Computer Academy, Inc. (704) 535-1053 [VP]

Ohio
Cincinnati: Smith/Boehm Assoc. (513) 891-521 [PPC]
Columbus: Handson Computer Learning Center (614) 885-2206 [PPC]

Oregon
Portland: Desktop Solutions (503) 620-0866 [AD]

Pennsylvania
Lancaster: Computerland of Lancaster (717) 291-2111 [VP]
Pittsburgh: Micro Training Specialists Co. (412) 687-6311 [PPC]; PC Solutions (412) 391-8800 [VP]

Rhode Island
East Providence: Direct Business Machines (401) 431-1170 [VP]

Texas
Dallas: Data Systems Computer Center (214) 991-2851 [VP]; Words and Pictures, Inc. (214) 871-0498 [VP]
Fort Worth: Compusource Sales & Service (817) 540-2024 [VP]
Houston: Comtec Computer Services (713) 680-3300 [VP]
Plano: Responsive Computer Services (214) 423-5944 [VP]
Richardson: Businessland (214) 680-8710 [ATA]

Vermont
Shelburne: Entre Computer Center (802) 985-3366 [VP]

Virginia
Charlottesville: Computerland (804) 979-9700 [VP]; Republic Research, Inc. (804) 296-9747 [VP]
Falls Church: Picture Conversion, Inc. (703) 998-5777 [VP]
Rosslyn: Businessland (703) 524-5112 [ATA]

Washington
Bellevue: Businessland (206) 454-0272 [ATA]
Seattle: Lee Sylvester/Art Direction & Graphic Design (206) 323-2620 [PM]

Canada
Toronto, Ontario: The Desktop Publishing Training Centre, Inc. (416) 927-0495 [PM, PPC]

APPENDIX B

TO: All Department/Area Chairs, Managers, Directors, etc.

FROM: Dee Link, Graduate Assistant, Printing Department

RE: Microcomputers and Applications in Your Department/Area

DATE: February 22, 1989

My thesis research involves the feasibility of a desktop publishing (DTP) lab on the PSU campus for education and industry.

Desktop publishing is a method whereby an individual can produce computer generated alpha/numeric and graphic pages, at his or her own desktop, that is camera-ready. Camera-ready is a printing industry term which implies quality and indicates the condition of the artwork's readiness for printing. These camera-ready materials may be brochures, flyers, bulletins, programs, advertisements, reports, etc.

The attached instrument is designed to ascertain the number of microcomputers on campus, the applications for which they are used and if a DTP lab were available, what interest in and utilization would be made of such a lab by departments and their majors.

Please take a few moments to answer the questions and return the instrument no later than **March 3, 1989**. Your comments are welcomed and your assistance is appreciated. Thank you.

c: J.J. Rodriguez, Printing Department Chair

APPENDIX C

PSU DEPARTMENTS COMPUTER USE SURVEY INSTRUMENT

Department/Program		Name
YES	NO	
_____	_____	1. Does your department of the university have microcomputers? If your answer is no , the following questions need not be completed. Please return the form.
_____	_____	2. How many? _____
_____	_____	3. What brands? (specify how many)
_____	_____	a. IBM PC _____
_____	_____	b. IBM compatibles _____
_____	_____	c. Apple _____
_____	_____	d. Macintosh
_____	_____	1. 512 _____
_____	_____	2. Plus _____
_____	_____	3. SE _____
_____	_____	4. MAC II _____
_____	_____	4. Indicate the ways in which the computers are utilized?
_____	_____	a. word processing
_____	_____	b. spreadsheet
_____	_____	c. data collection
_____	_____	d. publishing
_____	_____	e. marketing
_____	_____	f. graphics
_____	_____	g. other (please specify) _____
_____	_____	5. If a Desktop Publishing (DTP) lab were available to your department, how would your department use the lab? (use back side if more room is needed)
_____	_____	6. Could a DTP lab, with tutor, become an additional source of knowledge for your majors? If yes, briefly explain how a tutor could be of further service.
_____	_____	7. If a DTP lab were available, would you schedule some course assignments for your students which require the use of a DTP lab?
_____	_____	8. Could a DTP lab assist your efforts in the university's emphasis on writing across the curriculum?
_____	_____	9. If a general education course were offered in basic concepts of DTP would this benefit your majors?
_____	_____	10. If a seminar/workshop were offered in concepts of DTP would this benefit your department?

Fold this form and return to to my office listed on the back by **March 3, 1989**. Thank you.

APPENDIX E

Workshop Presenters

Dr. Charles Pearce has a Ph.D in advertising from the University of Tennessee Knoxville. He has an M.A. in communication and a B.F.A. in graphic design. He has presented papers and chaired workshops for the American Academy of Advertising on the use of computers in advertising courses. He has been teaching full time for 10 years and is head of the advertising sequence at KSU.

Dr. Harry Marsh received his Ph.D in communications from the University of Texas Austin, school of communications. His newspaper production experience spans hot-metal typesetting to desktop publishing, which he has been involved with at KSU for two years.

The Macintosh Laboratory at Kansas State is funded by contributions of the Miller family to the journalism school in memory of A.Q. Miller.

**Also, our thanks to
Carol Oukrop,
director of the A.Q. Miller
School of Journalism and
Mass Communications, for
her efforts in coordinating
the desktop publishing
workshop.**

Desktop Publishing Workshop

Friday, January 6, 1989

A.Q. Miller School of Journalism
and Mass Communications
Kansas State University
Manhattan, Kansas
107 Kedzie Hall

Agenda Friday, January 6 Desktop Publishing Workshop

107 Kedzie Hall, A.Q. Miller School of Journalism and Mass Communications Macintosh Laboratory, KSU, Manhattan, KS

- | | |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30 a.m. | Coffee and Rolls |
| 10:00 a.m. - Noon | Welcome from Carol Oukrop, School of Journalism director.
Introduction of Dr. Marsh and Dr. Pearce.
Dr. Pearce and Dr. Marsh will discuss using a PC and desktop publishing at your newspaper |
| Noon - 1:00 p.m. | Lunch at the KSU Union, compliments of the School of Journalism |
| 1:00 - 3:00 p.m. | Hands-on workshop with the Macintosh computers in the laboratory. Computers available for each attendee. |
| | Open question and answer time for problem solving and trouble shooting. |
| | Attendees will work with Pagemaker, Microsoft Word and Macdraw. |

Registration Form

(Cut along dotted line and send to Kansas Press along with your fee, Box 1773, Topeka, KS 66601.)

Cost: \$35 for first KPA member from your company, \$45 for non-members, \$20 for subsequent registrants.

Deadline: Dec. 30, 1988

Phone reservations accepted by calling (913) 271-5304. Ask for Barbara.

Name(s) _____

Company: _____

Address: _____

Telephone: _____

Registration is limited

Deadline for registering - Dec. 30

APPENDIX D

**Kansas Press
Presents:**

**The
MS-DOS
Alternative**

**Using IBM compatible
computers for desktop
publishing.**

**August 5, 1988
Kansas Press
Association
Headquarters
5423 S.W. 7th
Topeka, KS**

Program Outline

- | | |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9:30 a.m. | Coffee and rolls |
| 10:00 a.m. | Welcome and Introductions by Michel' Quakenbush,
Kansas Press Service Vice President |
| 10:15 a.m. | Mike Forman, Personal Computer Coordinator for
Stauffer Communications, Inc. and desktop publishing
expert will talk about using a PC and desktop publishing
at your newspaper. |
| 11:15 a.m. | Rob McWilliams, a representative from Computer Patch
Topeka, will give a demonstration of Microsoft Works, a
relatively inexpensive program used for publishing. |
| Noon | Break for catered lunch and informal discussion. |
| 1:00 p.m. | Mark Lockridge, Aldus Corporation, will give a
presentation on Pagemaker by Aldus. Hands-on exper-
ience will be available on several computers while he
demonstrates how to layout and design on the computer. |
| 2:15 p.m. | Two speakers will demonstrite the use of graphics and
how to incorpore them with Pagemaker while attendees
have hands-on time on computers. |

Registration is Limited - So Hurry!

Registration

Cost: \$35 for non KPA members
\$25 for KPA members

Send registration forms and fees to:

Barbara Fatseas
Member Services Coord.
Box 1773
Topeka, KS 66601

Deadline is August 1, 1988

Phone reservations accepted by
calling (913) 271-5304. Ask for
Barbara Fatseas.

Name(s): _____

Company: _____

Address: _____

Telephone: _____

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COLOPHON

This study has been completed with the use of current technology in desktop publishing software and hardware. The hardware consisted of a Macintosh SE with 20MB hard disk, extended keyboard, mouse, ImageWriter II and LaserWriter IINT. Software included MacWrite 5.0 for word processing for the body of the study, MacPaint and MacDraw were graphic programs used to produce the three figures listed and PageMaker 2.0 was used to reproduce documents for the Appendix.

An attempt was made to use a Hewlett-Packard Scanner, to reproduce the workshop documents in the Appendix however it was not satisfactory in optical character reading of the image. For comparison, a FAX machine was used from Axe Library to scan the same image. It too was not satisfactory in optical character reading.

The final publication was printed in Times, 12-point type, with bold and italic, and typographical standards were used as much as was permitted. (Double-spacing of text was required by the Graduate School.) The publication was bound using a Müller Martini Ag perfect (hot adhesive) binder. Labels were designed with PageMaker™ and MacPaint™ and printed on the LaserWriter IINT and attached with adhesive spray.

A 25% cotton based 20# Strathmore writing paper was chosen instead of current laser papers to add artistic quality to the overall design of the publication; this causes a degree of resolution loss but cannot be detected with the naked eye. Cover stock used is 88# Filare finish from Simpson Paper Co.